

Fig. 1

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Microprocessor

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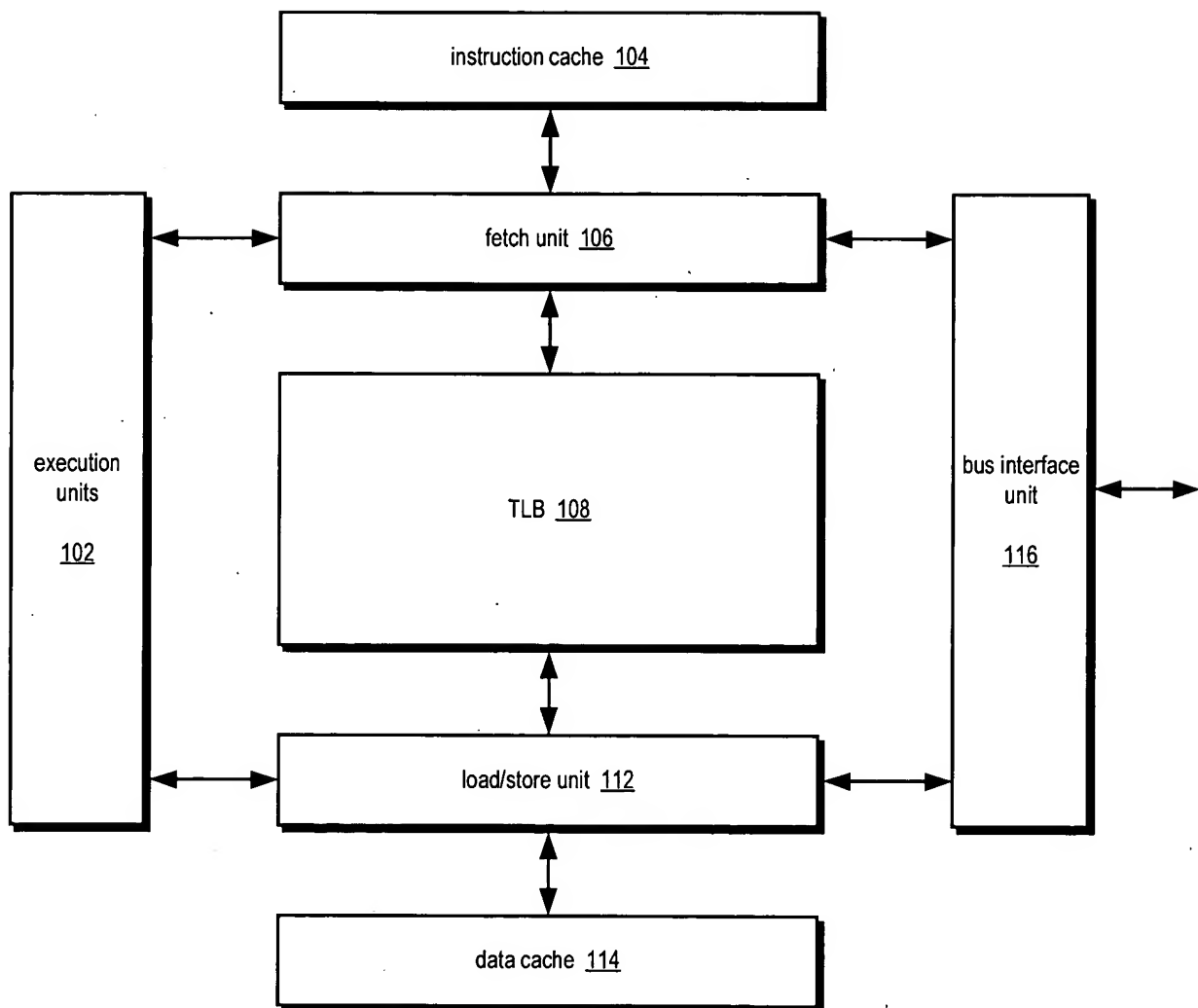


Fig. 2

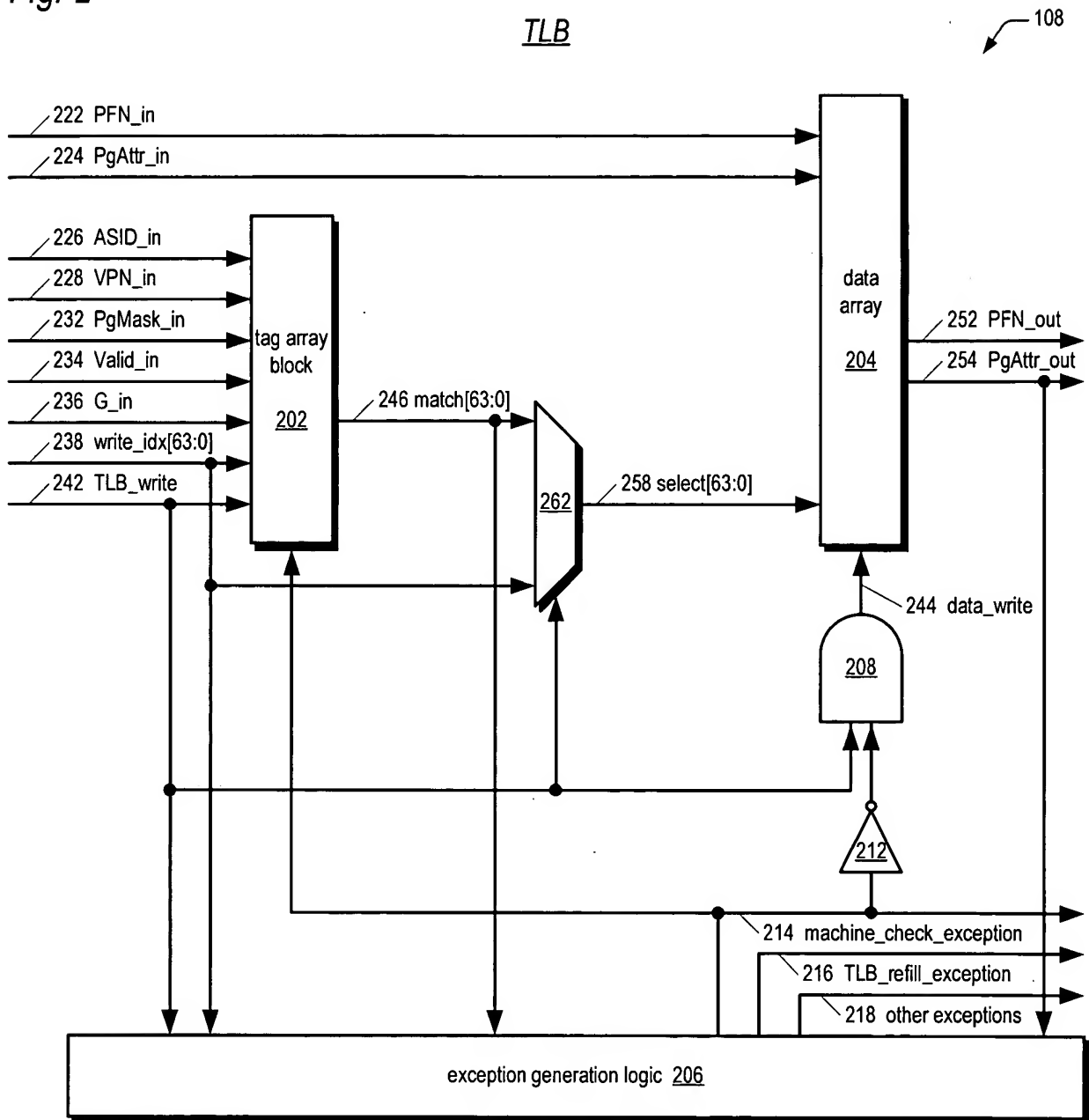
TLB

Fig. 3

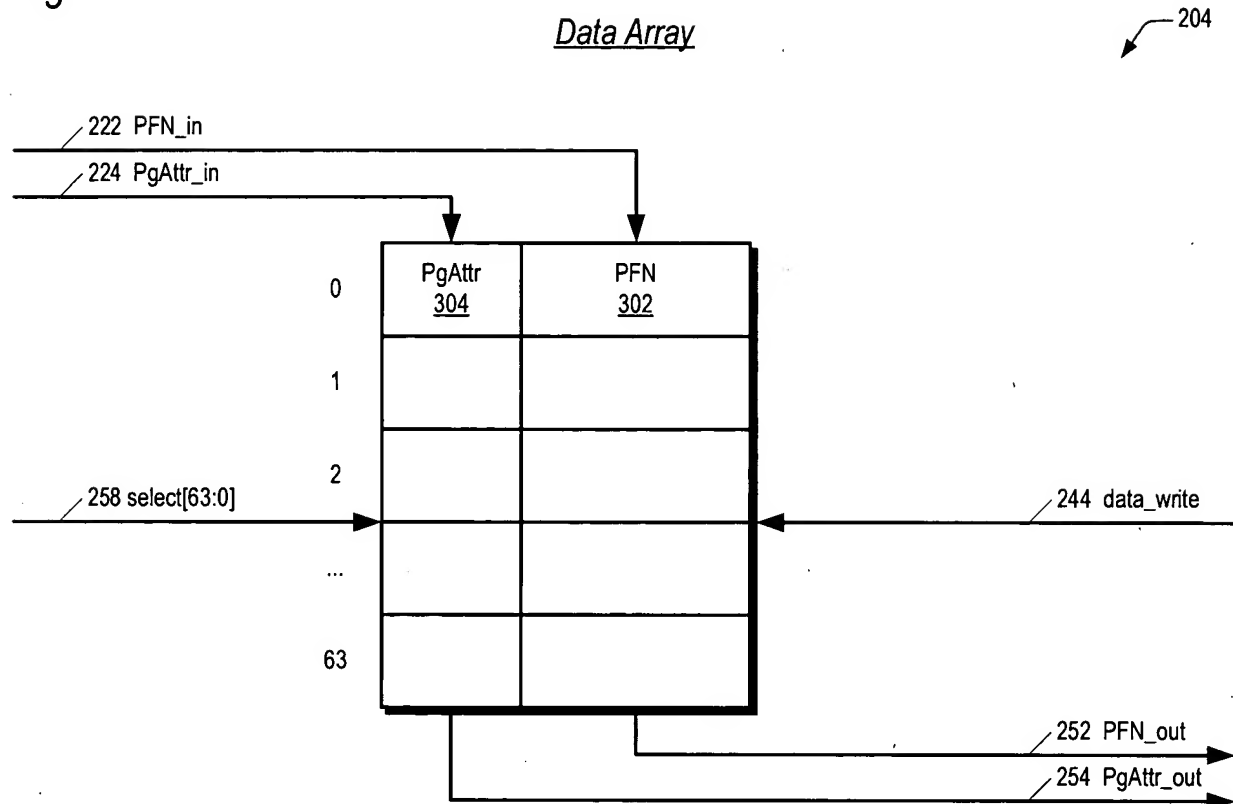


Fig. 5

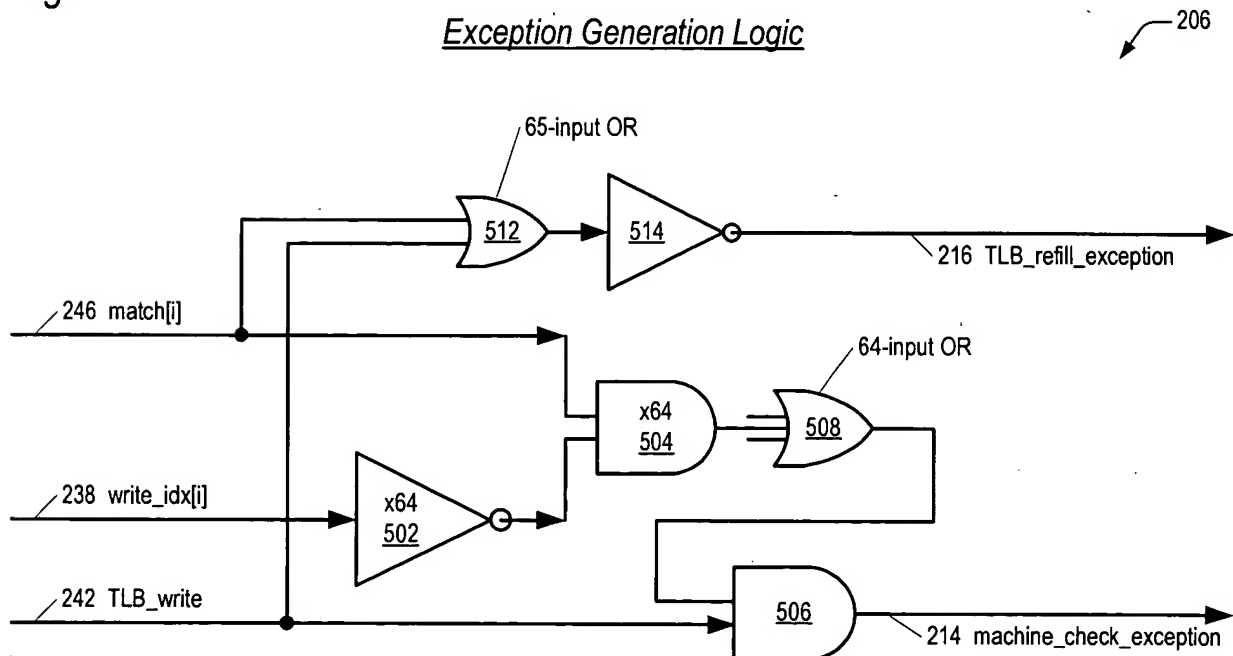
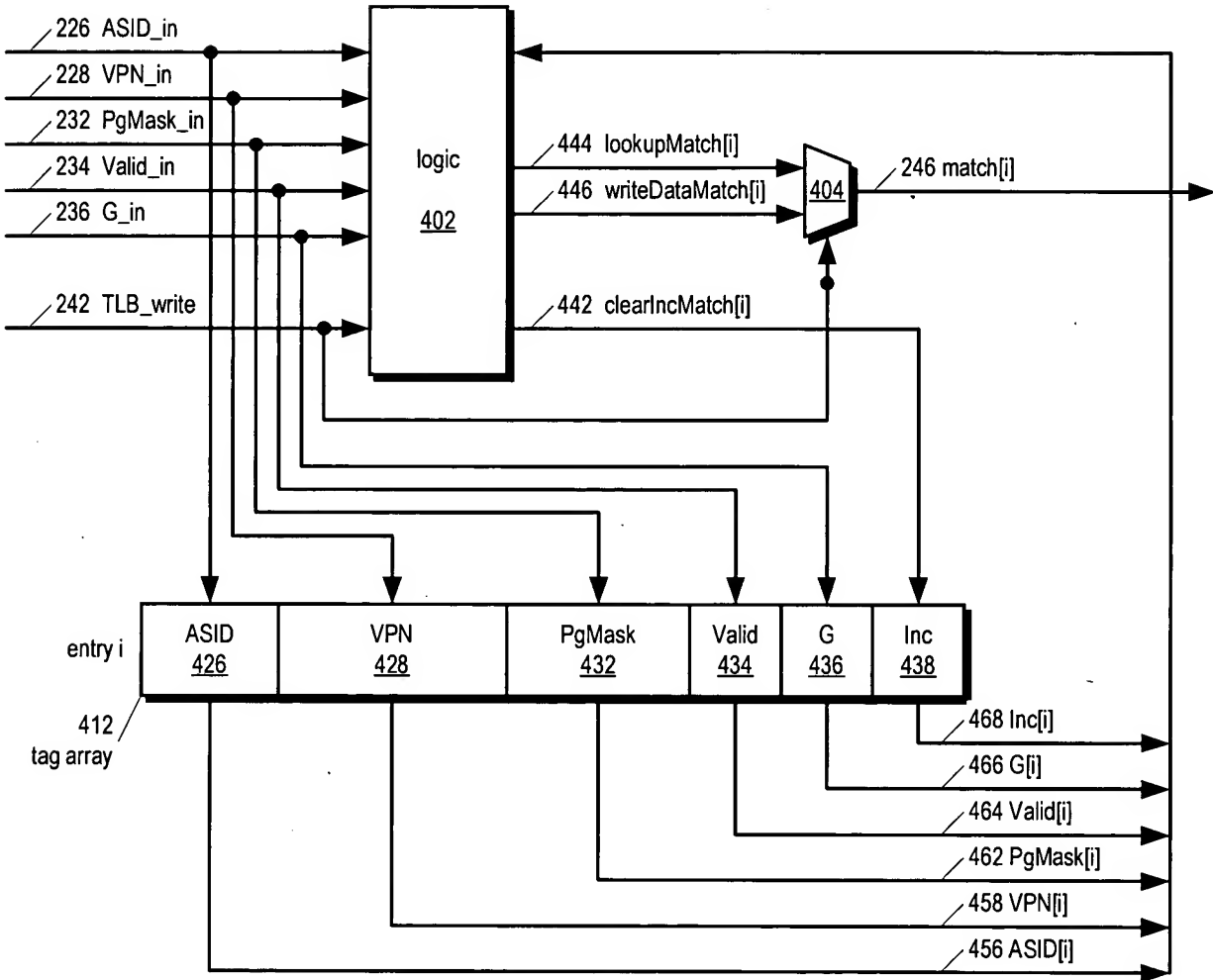


Fig. 4

Tag Array Block

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logic 402 equations:

```
lookupTagMatch[i] = ((ASID_in == ASID[i]) || G[i]) &&
~|((VPN_in ^ VPN[i]) & PgMask[i])
```

```
lookupMatch[i] = lookupTagMatch[i] && Inc[i]
```

```
writeTagMatch[i] = ((ASID_in == ASID[i]) || G[i] || G_in) &&
~|((VPN_in ^ VPN[i]) & PgMask[i] & PgMask_in)
```

```
clearIncMatch[i] = writeTagMatch[i] && Inc[i] && TLB_write
```

```
writeDataMatch[i] = clearIncMatch[i] &&
Valid_in &&
Valid[i]
```

Fig. 6

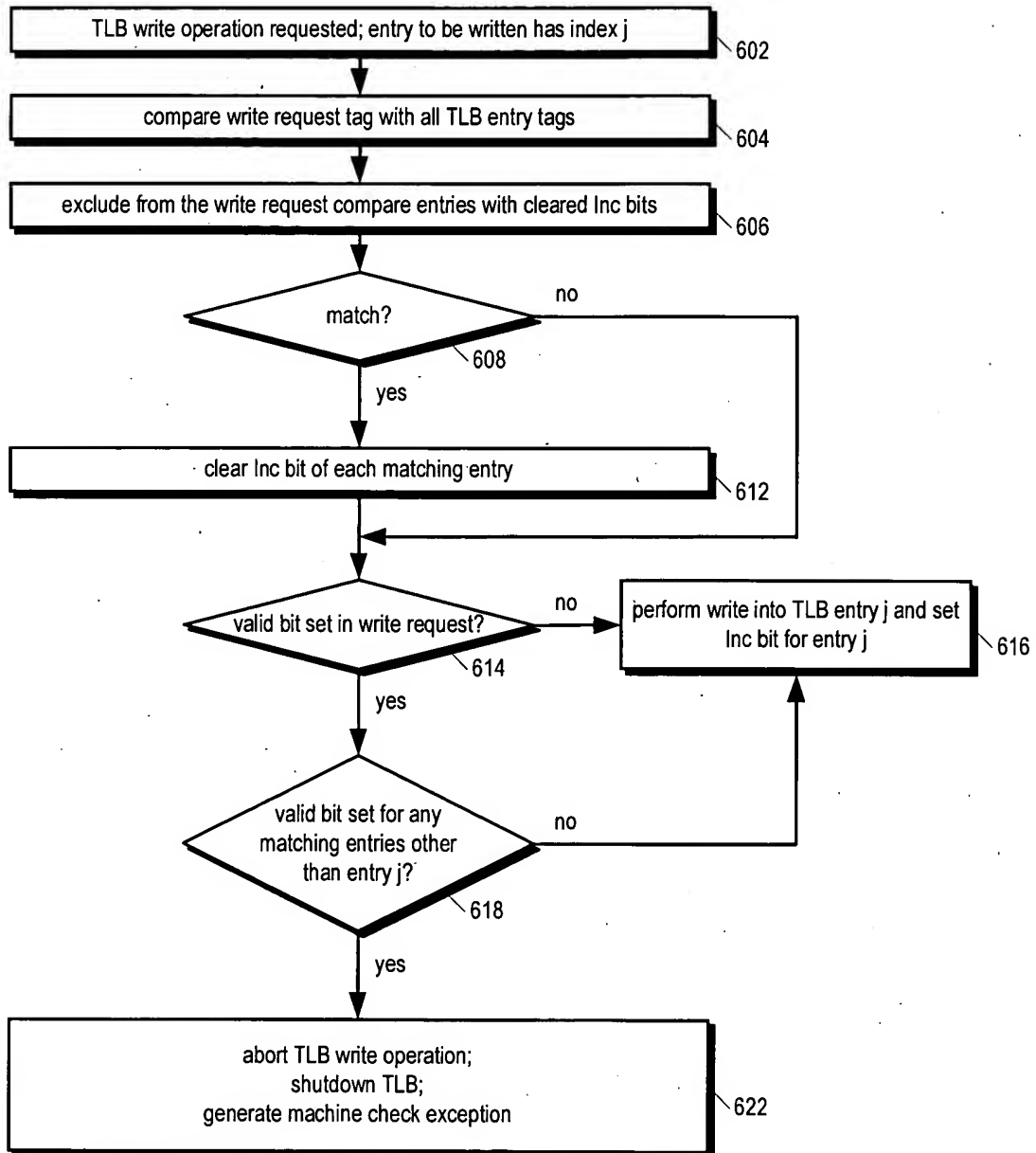
TLB Write Operation

Fig. 7

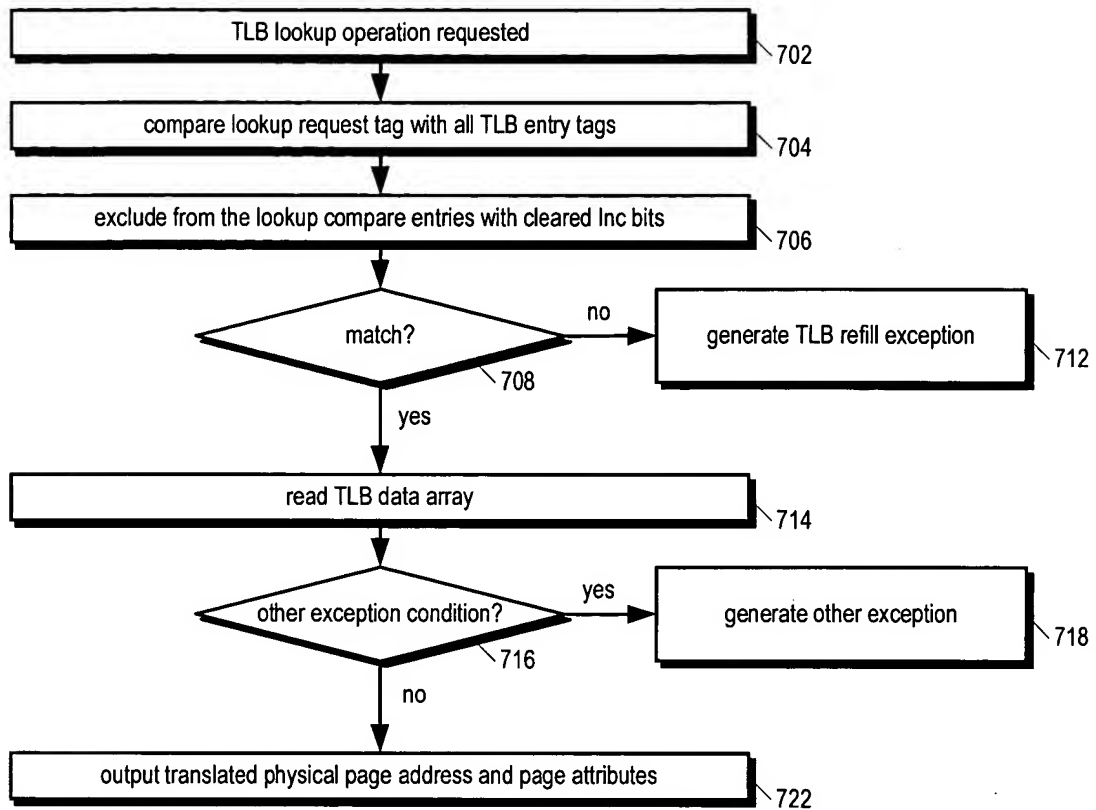
TLB Lookup Operation

Fig. 8

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System Employing Microprocessor

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